

In the outstanding Office Action claims 1-57 were provisionally rejected under 35 U.S.C. § 101 for double patenting as being the same as claims 1-20 in copending Application Serial No. 09/470,425. This rejection is respectfully traversed.

A double patenting rejection is only appropriate when the same invention is being claimed twice. "Same invention" means identical subject matter. A reliable test is whether one claim can be literally infringed without literally infringing the other claim. If there is an embodiment of the invention that falls within the scope of one of the claims but not the other, then the claims do not cover identical subject matter and double patenting does not exist. MPEP § 804, page 800-16 (July 1998).

It should be noted that the claims in Application Serial No. 09/470,425 have been amended and allowed. The case now contains claims 1-7 and 9-21. For ease of reference, the independent claims of that application, claims 1, 6 and 11, are repeated below (with some words in bold face type for emphasis) as follows:

1. A high speed spindle motor comprising:
 - a) a stator assembly comprising a stator having multiple conductors that create a plurality of magnetic fields when electrical current is conducted through the conductors and a **body of a phase change material having a coefficient of linear thermal expansion of less than 2×10^{-5} in/in/°F throughout the range of 0-250°F** encapsulating the stator;
 - b) a rotatable hub having a magnet connected thereto in operable proximity to the stator;
 - c) a shaft; and
 - d) **a hydrodynamic bearing** surrounding the shaft, one of the bearing or shaft being fixed to the stator assembly and the other of the bearing or shaft being fixed to the hub.
6. A high speed spindle motor comprising:
 - a) a stator assembly comprising:

- i) a stator having multiple conductors that create a plurality of magnetic fields when electrical current is conducted by the conductors; and
 - ii) a body of a phase change material substantially encapsulating the stator;
 - b) a rotatable hub having a magnet connected thereto in operable proximity to the stator;
 - c) **a hydrodynamic bearing** allowing the hub to rotate with respect to the stator assembly; and
 - d) **a solid insert substantially encapsulated within the body**, the insert enhancing heat transfer away from the bearing and the stator.
11. A high speed spindle motor comprising:
- a) a stator assembly comprising:
 - i) a stator having multiple conductors that create a plurality of magnetic fields when electrical current is conducted by the conductors;
 - ii) a body of phase change material substantially encapsulating the conductors, **the phase change material having a thermal conductivity of at least 0.7 watts/meter°K;**
 - b) a rotatable hub having a magnet connected thereto in operable proximity to the stator; and
 - c) **a hydrodynamic bearing** allowing the hub to rotate with respect to the stator assembly.

From a brief review, it will be seen that each of the independent claims in copending Application Serial No. 09/470,425 requires a hydrodynamic bearing. On the other hand, most of claims 1-57 in the present case do not require a hydrodynamic bearing. Hence, a motor having the elements of claim 1 of the present case but without a hydrodynamic bearing would infringe claim 1 of this case, but would not literally infringe any of the claims of Application Serial No. 09/470,425. The same is true for claim 57, the only other independent claim in the present application.

The only claim in the present application that requires a hydrodynamic bearing is claim 28. Thus a device that infringed claims 2-27 and 29-56 but without a

hydrodynamic bearing would also not infringe any claim of Application Serial No. 09/470,425. Clearly the provisional double patenting rejection of claims 1-27 and 29-57 should be withdrawn.

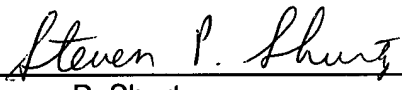
Furthermore, even though claim 28 requires a hydrodynamic bearing, claim 28 does not include some of the elements required by the claims of Application Serial No. 09/470,425. For example, in each of the claims recited above a second requirement has been printed in boldface. Claim 28 depends on claim 1. Neither claims 1 nor 28 require any of the second requirements outlined above. Thus, a motor with a hydrodynamic bearing and otherwise meeting the limitations of claim 28 of the present case (but without the coefficient of linear thermal expansion specified in claim 1 above, nor the insert specified in claim 6 above, nor the thermal conductivity specified in claim 11 above) would infringe claim 28 of the present case, but it would not literally infringe any of the claims of Application Serial No. 09/470,425.

Thus it has been shown that none of the claims of the present case cover the identical subject matter as any of the claims in Application Serial No. 09/470,425. Therefore the provisional double patenting rejection over that case should be withdrawn. An early notice of allowance is respectfully requested.

One item of assistance from the Examiner would be appreciated. The Supplemental Information Disclosure Statement mailed on August 15, 2000 listed 36 references. The 1449 form submitted included two pages. However, only the first page of the 1449 form from the Supplemental Information Disclosure Statement was attached to the outstanding Office Action. Another copy of the second page of the 1449 form is attached hereto. It is expected that the Examiner has already considered all of the references listed. Applicant would like to have a file copy showing the Examiner's initials next to each of the references B33-B36. If there are any questions regarding this request, or if the Examiner wishes to discuss any other details before mailing a notice of allowance, he is invited to telephone applicant's attorney.

Respectfully submitted,

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APPENDIX A

In the embodiment shown in FIGS. 5-6 a hydrodynamic bearing 118 is used. Hydrodynamic bearings can be [an] air bearings. The fluid used in hydrodynamic bearings can be either a liquid or gas. The bearing 118 concentrically surrounds a substantial portion of the shaft. In the embodiment shown in Fig. 5, the hydrodynamic bearing 118 is made of an inner first portion and outer second portion, the inner first portion being fixed to the shaft 116 and the outer second portion being fixed to the body 114. Alternatively, ball bearings such as the ones shown in the first embodiment could be used in the second embodiment. Finally, in the second embodiment the inner portion 130 of the body 114 does not extend through the entire length of the body 114, although in an alternate embodiment it could. The second embodiment may be made and used in a similar manner as the first embodiment. This embodiment has the advantages discussed above in conjunction with the first embodiment. The use of a hydrodynamic bearing is possible because there is less stress on the bearing case, as well as the fact that this motor is easier to assemble. The use of a hydrodynamic bearings provides less friction, less wear resistance and hence a longer bearing life, less vibration and the capability to operate at higher speeds.